

1           1. (Currently Amended) A network including one or more nodes connected by  
2 first and second rings formed by two or more transmission media, each transmission  
3 media including one or more signal channels, the network comprising:

- 4           a first node;
- 5           a second node connected to the first node by a first transmission media adapted to  
6           transmit transit data from the first node to the second node and a second  
7           transmission media adapted to transmit transit data from the second node  
8           to the first node;
- 9           a third node connected to the second node by a third transmission media adapted  
10           to transmit transit data from the second node to the third node and a fourth  
11           transmission media adapted to transmit transit data from the third node to  
12           the second node;
- 13           a fourth node connected to the first node by a fifth transmission media adapted to  
14           transmit transit data from the fourth node to the first node and a sixth  
15           transmission media adapted to transmit transit data from the first node to  
16           the fourth node;
- 17           the second node operable to receive transit data from the fourth transmission  
18           media; detect a first fault in the second transmission media, and forward  
19           the transit data from the third node received on the fourth transmission  
20           media to the third node on the third transmission media; ~~and~~
- 21           the first node operable to receive transit data on the fifth transmission media; and,  
22           irrespective of the existence of the first fault, forward the transit data from  
23           the fourth node to the second node on the fifth and first transmission  
24           media; wherein the first ring includes the first transmission media, the  
25           third transmission media, and the fifth transmission media; and wherein  
26           the second ring includes the second transmission media, the fourth  
27           transmission media, and the sixth transmission media; and
- 28           wherein the second node is operable to multiplex first host data received into the  
29           second node on the second ring with the transit data received on the  
30           second ring from the third node creating first multiplexed data; forward  
31           the first multiplexed data to the first ring; receive second host data onto

32 the first ring; multiplex the second host data with the first multiplexed data  
33 creating second multiplexed data; and forward the second multiplexed  
34 data to the third node on the third transmission media.

1       2. (Currently Amended) A network including one or more nodes connected by  
2 first and second rings formed by two or more transmission media, each transmission  
3 media including one or more signal channels, the network comprising:  
4       a first node;  
5       a second node connected to the first node by a first transmission media adapted to  
6       transmit transit data from the first node to the second node and a second  
7       transmission media adapted to transmit transit data from the second node  
8       to the first node;  
9       a third node connected to the second node by a third transmission media adapted  
10       to transmit transit data from the second node to the third node and a fourth  
11       transmission media adapted to transmit transit data from the third node to  
12       the second node;  
13       a fourth node connected to the first node by a fifth transmission media adapted to  
14       transmit transit data from the fourth node to the first node and a sixth  
15       transmission media adapted to transmit transit data from the first node to  
16       the fourth node;  
17       the second node operable to receive transit data from the fourth transmission  
18       media; detect a first fault in the second transmission media, and forward  
19       the transit data from the third node received on the fourth transmission  
20       media to the third node on the third transmission media;  
21       the first node operable to receive transit data on the fifth transmission media; and,  
22       irrespective of the existence of the first fault, forward the transit data from  
23       the fourth node to the second node on the fifth and first transmission  
24       media; wherein the first ring includes the first transmission media, the  
25       third transmission media, and the fifth transmission media; and wherein  
26       the second ring includes the second transmission media, the fourth  
27       transmission media, and the sixth transmission media; and

28       ~~The network of claim 1~~, wherein the first node is operable to receive host data;  
 29               upon not detecting the first fault, multiplex the host data with the transit  
 30               data received on the fifth transmission media and forward the multiplexed  
 31               data to the second node on the first transmission media; and upon  
 32               detecting the first fault, forward the host data to the fourth node on the  
 33               sixth transmission media.

1           3. (Original) The network of claim 1, wherein the first node is operable to  
 2       receive host data and, irrespective of the existence of the first fault, multiplex the host  
 3       data with the transit data received on the fifth transmission media and forward the  
 4       multiplexed data to the second node on the first transmission media.

1           4. (Cancelled)

1           5. (Original) The network of claim 1, wherein the first through sixth  
 2       transmission media are fiber.

1           6. (Original) The network of claim 1, wherein:  
 2       the first node is operable to detect a second fault in the first transmission media;  
 3               and forward the transit data from the fourth node received on the fifth  
 4               transmission media to the fourth node on the sixth transmission media.

1           7. (Previously Presented) The network of claim 6, wherein:  
 2       the second node is operable to multiplex first host data received into the second  
 3               node on the second ring with the transit data received on the second ring  
 4               from the third node creating first multiplexed data; forward the first  
 5               multiplexed data to the first ring; receive second host data onto the first  
 6               ring; multiplex the second host data with the first multiplexed data  
 7               creating second multiplexed data; and forward the second multiplexed  
 8               data to the third node on the third transmission media; and  
 9       the first node is operable to multiplex third host data received into the first node  
 10              on the first ring with the transit data received on the first ring from the

11 fourth node creating third multiplexed data; forward the third multiplexed  
12 data to the second ring; receive fourth host data onto the second ring;  
13 multiplex the fourth host data with the third multiplexed data creating  
14 fourth multiplexed data; and forward the fourth multiplexed data to the  
15 fourth node on the sixth transmission media.

1 8. (Original) The network of claim 1, wherein one or more nodes includes an  
2 add/drop multiplexer operable to extract or add host data.

1 9. (Original) The network of claim 1, wherein the first node detects the first fault  
2 by interpreting intelligent protection switching data.

1 10. (Original) The network of claim 9, wherein the first node is operable to  
2 broadcast the first fault to one or more nodes.

1 11. (Original) The network of claim 1, wherein the first node includes a counter  
2 operable to detect the transit data from the second node.

1 12. (Original) The network of claim 11, wherein the counter is operable to adjust  
2 whenever the transit data is not received.

1 13. (Original) The network of claim 1, wherein the first node is operable to  
2 detect an idle frame signal.

1 14. (Previously Presented) The network of claim 1, wherein at least one of the  
2 first ring and the second ring is a small ring.

1 15-17. (Cancelled)

1 18. (Currently Amended) In a system that includes a first and a second ring  
2 coupling two or more nodes, a method for transmitting first and second transit and first

3 and second host data through the system wherein the first and second rings have faults  
4 between two nodes, the method comprising:  
5 wrapping in a first node first transit data from the second ring to the first ring;  
6 receiving first host data in the first node along the first ring;  
7 multiplexing the first transit data with the first host data, creating first multiplexed  
8 data;  
9 routing the first multiplexed data along the first ring;  
10 wrapping in a second node second transit data from the first ring to the second  
11 ring;  
12 receiving second host data in the second node along the second ring;  
13 multiplexing the second transit data with the second host data, creating a second  
14 multiplexed data; and  
15 routing the second multiplexed data along the second ring;  
16 receiving third host data in the first node along the second ring;  
17 multiplexing the third host data with the first transit data prior to wrapping the  
18 first transit data;  
19 wrapping the third host data with the first transit data from the second ring to the  
20 first ring;  
21 receiving fourth host data in the second node along the first ring;  
22 multiplexing the fourth host data with the second transit data prior to wrapping  
23 the second transit data; and  
24 wrapping the fourth host data with the second transit data from the first ring to the  
25 second ring.

19-25. (Cancelled)